S/204/62/002/004/018/019
E075/E435

AUTHORS: Beer, A.A., Zagorets, P.A., Inozemtsev, V.F., Povkh, G.S., Popov, A.I.

TITLE: Radio-chemical telomerization of olefines

PERIODICAL: Neftekhimiya, v.2, no.4, 1962, 617-623

TEXT: Additional data are presented on the telomerization between ethylene and carbon tetrachloride, and the reaction between tetrafluoroethylene and isopropylalcohol. The experiments were conducted in a thermostatically controlled autoclave at 16 to 100 atm pressure in the absence of oxygen. The ethylene - CCl_4 mixture was irradiated with γ-rays from Co^{60} with the activity of about 350 g/equiv radium. The activity of the source for the $C_2H_2F_4$ - alcohol mixture was 120 g/equiv radium. The molar ratio C_2H_4 - CCl_4 was varied from 0.2:1 to 3.8:1 and the reaction was studied at 20, 50 and 100°C. It was established that the content of individual telomers in the reaction product is given by the following approximate equations

$$F_1 = \frac{C_1R}{C_1R+1}; \quad F_2 = \frac{C_2R}{(C_1R+1)(C_2R+1)}; \quad F_3 = \frac{C_3R}{(C_1R+1)(C_2R+1)(C_3R+1)}$$

etc.

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where F_n is the molar proportion of telomer with n olefine residues, C_n - the chain transfer constant for the radical leading to the formation of telomer with n olefine residues and R - the molar ratio of telogen to olefine in the reaction mixture. When the ratio is changed from 3.8:1 to 0.2:1, a marked increase in the yield of tetrachloropropane is observed (from 3 to 5% to 63 to 100°C). The results were used in the development of radio-chemical plant with an output of 8 kg/hour of tetrachloroalkanes with Co source activity of about 15000 g/equiv radium in a reactor of 0.5 m^3 volume and 800 mm in diameter. Telomerization between $C_2H_2F_4$ and lower alcohols was studied at room temperature. The radio-chemical yield decreases in the series propanol-2 > butanol-1 > ethanol > butanol-2 > methanol. The reaction conditions were selected so as to eliminate completely the formation of high molecular weight compounds. There are 4 figures and 2 tables.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. Mendeleyeva (Moscow Institute of Chemical Technology imeni Mendeleyev)

40103
S/048/62/026/008/019/028
B104/B102

24.6600

AUTHORS: Popov, A. I., Sorokin, P. V., Storizhko, V. Ye., and Taranov, A. Ya.

TITLE: Elastic scattering of protons by Mg^{25} and Mg^{26} nuclei

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 8, 1962, 1074-1079

TEXT: Mg^{25} and Mg^{26} nuclei were bombarded by a proton beam from the electrostatic accelerator of the FTI AN USSR. The spectra of the elastically scattered protons were studied with a magnetic analyzer. The reaction products were analyzed with a magnetic spectrometer. The Mg targets were produced by a magnetic separator. The elastic scattering cross sections of protons through angles of 90, 125, and 141° in the c.m.s. were recorded. In the proton energy range of 1500-3700 kev (where the energies correspond to excitation energies of Mg^{25} nuclei between 7800 and 9800 kev) 58 anomalies associated with Al^{26} levels have been detected. The mean distance between these levels arising in elastic scattering is 40 kev. In the range of 1550-3750 kev (corresponding to excitation

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40105
S/048/62/026/008/021/028
B104/B102

24.6600

AUTHORS: Sorokin, P. V., Popov, A. I., Storizhko, V. Ye., and Taranov, A. Ya.

TITLE: Elastic scattering of protons from O^{18} nuclei

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 8, 1962, 1084-1088

TEXT: The differential cross section of 1.7-3.5 Mev protons scattered through angles of 90, 125, and 141° in the c.m.s. was measured. The O^{18} targets were obtained by a magnetic separator. The table gives the resonances found, the energies of the corresponding F^{19} levels, their spins and parities, and their widths. Spins and parities were determined from 13 distinct resonances by phase shift analysis. Within the limits of error the results are in good agreement with those found by others (R. R. Carlson et al., Phys. Rev., 122, 607 (1961); A. S. Deyneko et al., Izv. AN SSSR, Ser. fiz., 24, 924 (1960)). There are 3 figures and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk USSR (Physico-technical Institute of the Academy of Sciences UkrSSR)

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S/056/62/043/003/002/063
B125/B102

AUTHORS: Sorokin, P. V., Popov, A. I., Storizhko, V. Ye., Taranov, A. Ya.

TITLE: Elastic and inelastic scattering of protons by Ne^{22} nuclei

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 3(9), 1962, 749-751

TEXT: Cross sections were measured of elastic (proton energies 1.6-3.2 Mev) and inelastic (1.9-3.2 Mev) scattering, $Ne^{22}(p,p\gamma)$, through the angles 90, 125, and 141° in the center-of-mass system and the angular distribution of the 1.27-Mev γ-rays, using an apparatus described by A. K. Val'ter et al. (Izv. AN SSSR, seriya fiz., 23, 839, 1959) and P. V. Sorokin et al. (ZhETF, 40, 1253, 1961). The neon gas target was enriched to 87% with Ne^{22}. The results of these measurements were evaluated by the method of least squares under the following conditions: The resonance investigated is related to a single level. Only the least possible orbital moments l and l' take part in the reaction. The Ne^{22} ground state has spin and parity 0^+, the first excited state 2^+. The

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POPOV, A.I., inzh.

Experimental simulation of the weighing of a liquid in studying stresses in hydraulic engineering structures. Sbor. trud. MISI no.35:110-114 '61. (MIRA 14:9)
(Hydraulic engineering) (Dams)

POPOV, A.I., inzh.

Method of calculating the strength of a block of the engine building of a hydroelectric power station as a spatial framed system. Gidr. stroi. 32 no.12:33-37 D '61. (MIRA 15:2)
(Hydroelectric power stations)

POPOV, A.I., inzh.

Experimental study of stresses in combined spillway-type hydroelectric power stations. Sbor. trud. MISI no.35:123-130 '61. (MIRA 14:9)

(Hydroelectric power stations)

ZUBRITSKIY, L.A.; POPOV, A.I.; SOROKIN, P.V.; SAMOYLOV, V.F.

Semiconductor spectrometers for charged particles. Izv.AN SSSR. Ser.fiz. 25 no.10:1286-1290 O '61. (MIRA 14:10)

1. Fiziko-tekhnicheskiy institut Akademii nauk USSR i Khar'kovskiy gosudarstvennyy universitet.
(Spectrometer)

POPOV, A.I., prof., red.; SHPOLYANSKAYA, N.A., red.; YERMAKOV, M.S., tekhn. red.

[Geographical permafrost study and periglacial morphology] Voprosy geograficheskogo merzlotovedeniia i perigliatsial'noi morfologii. Pod red. A.I.Popova. Moskva, Izd-vo Mosk. univ., 1962. 194 p. (MIRA 15:6)

1. Moscow. Universitet. Geograficheskiy fakul'tet.
(Frozen ground)

S/169/62/000/004/021/103
D228/D302

AUTHOR: Popov, A. I.

TITLE: Solar and sky radiation in the Krasnoyarsk region

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 4, 1962, 13, abstract 4B103 (V sb. Aktinometriya i atmosfern. optika, L., Gidrometeoizdat, 1961, 49-52)

TEXT: Actinometric observations were begun in the Krasnoyarsk region in 1954; at the present time there are 8 stations. The observations of Turukhansk and Yeniseysk for 1956-1957, and those of Solyanka, Khakasskaya, and Kyzyla for 1957, have been processed. In 1957, the yearly totals comprised 114.7 kg.cal/cm^2 at Kyzyl and 77.9 kg.cal/cm^2 at Turukhansk. The ratio of the total of the sky to the solar radiation comprises 43% in the south and 53% in the north. The radiation totals for spring, summer, and autumn comprise 90% of the yearly figure in the south and 97% in the north. [Abstracter's note: Complete translation.]

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ANTONETS (docent) and POPOV, A. I. and AVRAMOV, K. K. (Assistants, Veterinary Faculty of the Ukranian Academy of Agricultural Sciences). (Abstracted by NOSKOV, A. I.)

"A case of mass cattle dermatosis".....
Veterinariya, vol. 39, no. 3, March 1962 pp. 30

POPOV, A.I.

Pleistocene paleogeography of the Bol'shezemel'skaya Tundra. Vest. Mosk. un. Ser. 5: geog. 16 no.6:41-47 N-D '61. (MIRA 14:11)

1. Kafedra geografii polyarnykh stran i glyatsiologii Moskovskogo universiteta.
(Bol'shezemel'skaya Tundra--Paleogeography)

POPOV, A.I.

Longevity in the White Russian S.S.R. Zdrav. Bel. 7 no.9:56-59 S '61. (MIRA 14:10)

1. Zaveduyushchiy sektorom gerontologii Belorusskogo nauchno-issledovatel'skogo sanitarno-gigiyenicheskogo instituta (dir. - doktor med. nauk P.V.Ostapenya).

(WHITE RUSSIA--LONGEVITY)

SOROKIN, P.V.; POPOV, A.I.; STORIZHKO, V.Ye.; TARANOV, A.Ya.

Inelastic scattering of protons by Ne^{20} nuclei. Zhur. eksp. i teor. fiz. 40 no.5:1253-1256 My '61. (MIRA 14:7)

1. Fiziko-tekhnicheskiy institut AN Ukrainskoy SSR.
(Protons—Scattering)
(Neon—Isotopes)

Country : USSR
Category : Diseases of Farm Animals.
General Problems. R-1
Abs. Jour : RZBiol., No. 4, 1959, No. 16786

Author : Popov, A. I.
Institut. : Kiev Veterinary Institute.
Title : The Casuistics of Foreign Bodies in the Spleen of a Horse.

Orig Pub. : Tr. Kiyevsk. vet. in-t, 1957, 13, 215-216

Abstract : No abstract.

Card: 1/1

27891
S/048/61/025/010/001/003
B104/B112

21.6000

AUTHORS: Zubritskiy, L. A., Popov, A. I., Sorokin, P. V., and Samoylov, V. F.

TITLE: Semiconductor spectrometers of charged particles

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 10, 1961, 1286 - 1290

TEXT: The authors constructed a series of germanium and silicon spectrometers. They investigated the properties of these spectrometers by means of α-particle radiation from a Po^{210} source. The voltage pulses obtained from the detector were amplified by a linear amplifier and analyzed by means of a 100-channel pulse analyzer of AИ-100 (AI-100) type. In germanium spectrometers, n-type germanium with a resistivity of 40-45 ohm·cm is used. A surface-barrier p-n junction was produced by sputtering gold on the germanium surface. The germanium plates (5·5·1 mm) were etched in an CP-4 (SR-4) solution to obtain a regular reflecting surface. The crystal was mounted in a crystal-holder. A small amount

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Semiconductor spectrometers...

of indium soldered to the upper surface of the crystal produced a p-n junction. The construction is shown in Fig.1. The spectrometer was investigated at nitrogen temperature. The volt-ampere characteristic of the gold-germanium spectrometer described here is better than that of the spectrometer described by M. L. Halbert and J. L. Blankenship (Nucl. Instr. and Method., 8, 106 (1960)). If the voltage on the junction is between 10 and 30 v the resolving power of the spectrometer is $<0.5\%$. In silicon spectrometers, n-type silicon with a resistivity of 100 ohm·cm is used. By sputtering boron on silicon plates (4·4·1 mm, 1200°C, diffusion depth of boron $\lesssim 1\mu$) a p-n junction is produced. After finishing the diffusion process the p-layer is etched. The crystal is fixed in a tantalum crystal holder. An aluminum contact is soldered to the p-layer. The construction of the silicon instrument is the same as that of the germanium instrument. The silicon spectrometer was investigated at room temperature and nitrogen temperature. At room temperature the resolving power of the spectrometer is 3% (if the voltage on the junction is between 5 and 10 v). At nitrogen temperature, the resolving power of the silicon spectrometer is 2.5% (voltage on the junction between 50 and 180 v). Up to a voltage of 200 v, the current

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Semiconductor spectrometers...

is weaker than 0.01 μa. The effective thickness of the sensitive layer at 30 v is 55μ. It prevails over the thickness of the volume charge of the p-n junction (28μ). The authors thank A. K. Val'ter and A. Ya. Taranov for cooperation. There are 9 figures and 7 non-Soviet references. The three most recent references to English-language publications read as follows: Amsel G., Baruch P., Smulkowskiy O., Nucl. Instr. and Method, 8, 92 (1960); Fridland S., Mayer J., Wiggins J., Nucleonics, 18, 2, 54 (1960); Almen E., Larsh, G. E., Gordon, T., Sikkeland, Rev. Scient. Instrum., 31, 10, 1114 (1960).

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk USSR (Physico-technical Institute of the Academy of Sciences UkrSSR), Khar'kovskiy gos. universitet (Khar'kov State University)

Card 3/4

POPOV, A.I.

Medical investigation of persons 80 years and older. Zdrav. Belor. 6 no.9:46-47 S '60. (MIRA 13:9)

(AGING--HYGIENIC ASPECTS)

MARKOV, K.K., red.; POPOV, A.I., red.; SMIRNOVA, T.I., red.; GEORGIYEVA, G.I., tekhn. red.

[Periglacial phenomena in the U.S.S.R.] Perigliatsial'nye iavleniia na territorii SSSR; sbornik statei. Moskva, Izd-vo Mosk. univ., 1960. 287 p. (MIRA 14:7)

(Glaciology)

POPOV, Aleksandr Ivanovich; KOGAN, Ye.L., red.

[Automation and labor] Avtomatizatsiia i trud. Moskva, Znanie, 1965. 31 p. (Novoe v zhizni, nauke, tekhnike. III Seriia: Ekonomika, no.15) (MIRA 18:7)

ALEKSEYEV, Vasiliy Dmitriyevich; POPOV, Aleksandr Ivanovich; SIZOV, Konstantin Pavlovich; SOKOLIN, G.Ye., red.; BOBROVA, Ye.N., tekhn.red.

[Mechanization of operations for the repair of freight cars] Mekhanizatsiia rabot pri remonte gruzovykh vagonov. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1960. 268 p. (MIRA 14:4)
(Railroads--Freight cars--Maintenance and repair)

POPOV, A.I.

Origin and development of thick masses of ground ice. Mat.k ɔsn. uch. o merz.zon.zem.kory no.2:5-24 '55. (MIRA 13:9)
(Frozen ground)

DEYNEKO, A.S.; POPOV, A.I.; SOROKIN, P.V.; TARANOV, A.Ya.

Magnetic spectrometer with double focusing. Izv.AN SSSR Ser.fiz. 24 no.7:924-928 Jl '60. (MIRA 13:7)

1. Khar'kovskiy fiziko-tekhnicheskiy institut Akademii nauk USSR.
(Spectrometer)

POPOV, A.I.

Periglacial and other zonal geocryological phenomena recent and ancient. Vest.Mosk.un.Ser.biol., pochv., geol., geog. 14 no.2:187-199 '59. (MIRA 13:4)

1. Kafedra geografii polyarnykh stran Moskovskogo gos. universiteta.
(Frozen ground)

POPOV A. I.

ARYKIN, Ivan Grigor'yevich, kand.tekhn.nauk; VOSKRESENSKIY, Yuliy Sergeyevich, nauchnyy sotrudnik; LEBEDEV, Mikhail Petrovich, nauchnyy sotrudnik; SOKOLOV, Aleksandr Vasil'yevich, inzh.-konstruktor; FREYMKMAN, Isay Yefimovich, inzh.-konstruktor. Prinimali uchastiye: POPOV, A.I., kand.tekhn.nauk; YAKOVLEV, Ye.V., inzh.-konstruktor. LAZAREV, M.P., red.; POLTEVA, B.Kh., red.izd-va; PROKOF'YEVA, L.N., tekhn.red.

[Dredging streams used in timber rafting with the ZRS-1 dredging pump] Proizvodstvo dnouglubitel'nykh rabot na lesosplavnykh putiakh zemlesosno-refulernym snariadom ZRS-1. Moskva, Goslesbumizdat, 1959. 111 p.
(Dredging machinery) (MIRA 13:1)

POPOV, A. I.

"Periglacial Formations and Laws of Their Distribution in the USSR"

report to be submitted for the Intl. Geographical Union, 10th General Assembly and 19th Intl. Geographical Congress, Stockholm, Sweden, 6-13 August 1960.

POPOV, A.I.

Development of the relief in the Berelekh Valley. Vop. geog. no.46: 61-71 '59. (MIRA 12:12)
(Berelekh Valley--Physical geography)

83503

S/048/60/024/007/010/011
B019/B060

26.2260

AUTHORS; Deyneko, A. S., Popov, A. I., Sorokin, P. V., Taranov, A. Ya.

TITLE: A Magnetic Spectrometer[21] With Double Focusing

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960, Vol. 24, No. 7, pp. 924-928

TEXT: This is the reproduction of a lecture delivered at the 10th All-Union Conference on Nuclear Spectroscopy held in Moscow from January 19 to 27, 1960. The spectrometer described here, which has a magnetic field in sector form, is intended for the study of nuclear reactions brought about by electrostatic accelerators. Since the energy of the products resulting from the nuclear transformations examined with this spectrometer do not exceed 8 Mev, it was not necessary for the Hρ to exceed $4 \cdot 10^5$ oe·cm. A homogeneous field with 15,000 oe was easily attainable in the not very large gaps. The radius of curvature of the particle path was found to be 320 mm. The distance from the target to the magnetic field entrance is 400 mm, and it is therefore possible to study the distribution of the

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A Magnetic Spectrometer With Double Focusing

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nuclear reaction products at an angle of 0 - 150°. The distance between the photographic state and the point of exit of the particles from the magnetic field is 700 mm. Fig. 2 shows a view of the spectrometer. The magnet core is made of Armco iron, while the water-cooled magnetizing coils are wound on copper bars. The resistance of the coils connected in series is 1.38 ohms, the maximum power consumption is 2.2 kw. The magnetizing current is stabilized to within an accuracy of 0.05%, and the magnetic field can be regulated between 2 and 15 koe. The proton energies which the spectrometer is capable of recording are in the range of 0.2 and 8 Mev. The spectrometer testing is dealt with in great detail. Fig. 3 shows the magnetic field strength as a function of the coil current. Thorough investigations revealed that the topography of the magnetic field does not change with rising magnetic field strength, and 0.3% is given as the maximum deviation of the field on the strength of the particle path. The maximum inhomogeneity is 0.03% per centimeter. Fig. 4 shows the resolving power as a function of the distance of the dector from the point of exit of the particle out of the magnetic field. The best resolution is at 686 mm, which is in good agreement with the projected distance of 700 mm. Fig. 5 shows line shapes of α-particles, as were determined with a scintillation counter

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End

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